Our Docket No: 42390P9017

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
Doyle, et al.	)	Examiner: Chankong, Dohm
Application No: 09/752,369	)	Art Unit: 2152
Filed: December 29, 2000	)	
For: Enhanced Configuration of InfiniBand Links	)	

Mail Stop Appeal
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF
IN SUPPORT OF APPELLANT'S APPEAL

Sir or Madam:

Appellant hereby submits this Brief in support of its appeal from a Final Office Action by the Examiner, mailed August 9, 2005 in the above-referenced Application. A pre-appeal brief request for review was filed on December 12, 2005. Appellant respectfully requests consideration of this appeal and the allowance of the above-captioned patent application.

An oral hearing is <u>not</u> requested.

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(i)   REAL PARTY IN INTEREST

The invention is assigned to Intel Corporation of 2200 Mission College Boulevard, Santa Clara, California 95052.

(ii)   RELATED APPEALS AND INTERFERENCES

To the best of Appellant's knowledge, there are no appeals, interferences, or judicial proceedings related to the present appeal that are related to, will directly affect, will be directly affected by, or will have a bearing on the Board's decision.

(iii)   STATUS OF THE CLAIMS

Claims 1-26 are currently pending in the above-referenced application. In the Final Office Action mailed August, 2005, claims 1-26 were rejected. A Pre-Appeal Brief Request for Review was filed on December 9, 2005, resulting in the Notice of Panel Decision of February 13, 2005 indicating that the application remains under appeal because of the existence of at least one actual issue for appeal.

Claims 1-6, 8-22, and 24-26 were rejected under 35 U.S.C. §102 (e) as being anticipated by U.S Patent 6,735,660 of *Osten, et al.* (hereinafter referred to as *Osten*). Claims 7 and 23 are rejected under 35 U.S.C. 103 (a) as being unpatentable over *Osten* in view of U.S Patent 6,732,249 of *Pickreign, et al.* (hereinafter referred to as "*Pickreign*").

(iv)   STATUS OF AMENDMENTS

No amendments are currently pending. Appellants filed a timely Notice of Appeal and Pre-Appeal Brief Request for Review on December 9, 2005.

(v)   SUMMARY OF THE CLAIMED SUBJECT MATTER

The present invention generally relates to computer networks, and specifically to the configuration of InfiniBand links. (See Field of the Invention, page 1, lines 6-7).

An embodiment of the invention may be understood by referring to Figures 4 and 5 and the supporting text of the specification. In Figure 4, a embodiment of the invention includes module 400 connected to a chassis 415 via an InfiniBand backplane connector 425. The module is operable to request an expanded connectivity configuration from the chassis 415, the request being communicated using the InfiniBand management link 435. In an embodiment, the module 400 writes the configuration request to a first configuration register 455. The chassis management entity 420 issues a respons to the module by writing the response to a second configuration register 460, with the response indicating whether the chassis management entity 420 can support the requested connectivity configuration. If there is a positive response, the module 400 then attempts to establish the requested links. (*See* Description, page 9, line 14 through page 10, line 10)

Figure 5 then provides a flow chart to illustrate the operation of an InfiniBand module. In this embodiment, the module determines what connectivity configuration is needed 500. If the request is for an expanded configuration 505, the module requests this configuration by writing the configuration request to a register 510. The module detects the response regarding the configuration request 515. If the response is affirmative 520, the module initiates the links contained in the requested configuration 525 and commences operations 530. If the response to the configuration request is negative, because the configuration request is denied or because the chassis does not respond to the request, the module again formulates a configuration request 500 and proceeds through

the process defined. If a request is not for an expanded configuration 505 then the

process may proceeds according to the InfiniBand Specification 535 proceeds to initiate

the configuration 525. (*See* Description, page 10, line 11 through page 11, line 4)

(vi) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-6, 8-22, and 24-26 stand rejected under 35 U.S.C. §102 (e) as being anticipated by *Osten*.

Claims 7 and 23 stand rejected under 35 U.S.C. 103 (a) as being unpatentable over *Osten* in view of *Pickreign*.

(vii) **ARGUMENT**

(A) 35 U.S.C. §102 (e) – *Osten* – The Examiner rejected claims 1-6, 8-22, and

24-26 under 35 U.S.C. §102 (e) as being anticipated by *Osten*. Appellant respectfully

submits that such claims are not anticipated by the reference, and that the claims should

be allowed.

Claim 1 reads as follows:

1.   A method comprising:
          requesting an InfiniBand connectivity configuration;
          receiving a response regarding whether the requested configuration
               can be provided; and
          attempting to establish the requested connectivity configuration if
               the response to the request is affirmative.

It is the contention of the Applicant that *Osten* does not contain the elements of

"requesting an InfiniBand connectivity configuration" and "receiving a response

regarding whether the requested configuration can be provided". Related provisions are

contained in independent claims 8, 12, 16, and 24. It is thus submitted that a prima facie

case of rejection has not been made.

The Examiner disagrees with Applicant's position. In response to arguments

presented, the Examiner has cited to certain provisions of *Osten*. It is respectfully

submitted that the cited portions of *Osten* do not contain the elements of the claims and

do not refute the arguments presented.

Among the provisions cited is column 8, line 35 through column 9, line 8, which

includes four paragraphs of *Osten*. The first of the paragraphs indicates that "whenever a

slot is empty or no IOA has been initialized in the slot, the SES processor controls the

tri-state logic to set all sideband signal pairs to a high impedance state. Once a

sideband-capable IOA is inserted in a slot, a presence detect signal will both immediately tri-state the sideband signal paths on the IOA through control of tri-state logic block 54 (FIG. 2), and notify the SES processor that an IOA has been inserted in the slot and is ready to be initialized." (*Osten*, col. 8, lines 35-46) This paragraph indicates that, when a side-band capable IOA (input/output adapter) is inserted into a backplane slot, a presence detect signal will tri-state the sideband signal paths on the IOA and notify the processor that the IOA is inserted in the slot and is ready. This does not provide a request or response regarding a configuration.

The second paragraph indicates that "[u]pon detection of the assertion of a presence signal, routine 70 begins in block 72 by reading the VPD information from the IOA over the 12C bus to determine what the capabilities of the IOA are. ... An innumerable number of sideband capabilities, definitions and formats may be defined by the VPD consistent with the invention." (*Osten*, col. 8, lines 47-58) In this paragraph, *Osten* describes the process that is followed after an IOA is detected. Specifically, the VPD (vital product data) information is read to determine the capabilities of the IOA. The paragraph also indicates what may be indicated by the VPD, including what link is required and that a number of other signal paths are allocated for sideband communications. Thus, this paragraph shows that the system described in *Osten* operates in a different fashion than the relevant elements of the claims. The process that is described in *Osten* is one in which an IOA is being examined to determine its capabilities. There is no indication that a device makes a request for a connectivity configuration or that a response is made – there is no communication back and forth between the devices.

The third paragraph indicates that "the SES processor checks the relative capabilities and the compatibility between the IOA and the host apparatus, including the slot connector capabilities and/or other capabilities of the host apparatus. Doing so ensures that the computer and slot are fitted with the hardware and software necessary to properly operate the type of IOA installed in the slot." (*Osten*, col. 8, lines 59-65) This paragraph then follows with a description of the processor checking the relative capabilities between the IOA and the host apparatus. As indicated in *Osten*, this is done to ensure that the computer and the slot have the hardware and software necessary to operate the relevant type of IOA. Again, there is no suggestion of a request/response operation. Instead, *Osten* is describing a process for determining whether the system can handle the IOA.

The fourth paragraph provides that "[i]f the check in block 74 fails, control passes to block 76 to signal an error, typically in any of a number of manners known in the art. Otherwise, if the check passes, block 74 passes control to block 78 to set up any initial configuration for the slot and the corresponding IOA through the 12C bus to prepare for sideband communications. ..." (*Osten*, col. 8, lines 66 through col. 9, line 8) This paragraph then describes the result of the check. If the check passes, the process continues with initial configuration. If the check fails, then the result is "an error, typically in any of a number of manners known in the art." *Osten* is describing a process for success or failure of the check, which is not relevant to the elements of the claims.

The Examiner has further cited to *Osten* column 7, lines 49-53, the Examiner indicating that such provision provides "an alternative embodiment where the adapter provides an identifier to the host, the host utilizing the identifier to request configuration information from (for example) a database, and applying the received configuration to the

adapter." However, it is submitted that the cited portion does not actually describe a request and response as provided in the claims. This provision of *Osten* describes some of the information that may be stored in the VPD, indicating that "IOA 26 also includes vital product data (VPD) defined in a VPD block 60, which provides, in addition to conventional VPD information, sideband configuration information that defines the sideband capabilities of the IOA." The cited portion also describes possible elements of the sideband configuration information, and indicates that in an alternative a make or model identifier for the IOA could be provided as sideband configuration information so that a host system could access a database to obtain relevant configuration information for the particular type of IOA. (*Osten*, col. 7, lines 43-57) The IOA is not described as making any type of request, but rather indicates that capability data stored is stored in a VPD block (such as element 60 shown in Figure 2) of the IOA. The Examiner refers to the database access, indicating that the claims may be anticipated by a request to the database. It is submitted that the suggestion of the use of a database does not describe "requesting an InfiniBand connectivity configuration" and "receiving a response regarding whether the requested configuration can be provided". All *Osten* describes in this possible embodiment is that the IOA might provide a make or model identifier, and then a database might be used to look up further information.

It is further noted that, even if the Examiner's argument regarding the database reference were correct, such an argument clearly would not apply to, for example, claims 5, 9, 12, and 16, which identify the sender and recipient of the request. Such claims could not be anticipated by the database reference in *Osten*.

Thus, *Osten* does not teach or suggest a process or apparatus that provides for a request for a configuration and a response to the configuration request. *Osten* describes a

one-way process in which a host reads static configuration information and acts upon the information, *not* a two-way communication in which a request is made and a response is received.

For at least the above reasons, *Osten* does not anticipate the provisions of independent claims 1, 8, 12, 16, or 24. The remaining rejected claims 2-6, 9-11, 13-15, 17-22, 25, and 26, while having other differences, are dependent claims and are allowable as being dependent on the allowable base claim.

(B) <u>35 U.S.C. 103 (a) – *Osten* in view of *Pickreign*</u> – The Examiner has further rejected claims 7 and 23 under 35 U.S.C. 103 (a) as being unpatentable over *Osten* in view of *Pickreign*.

It is submitted that *Pickreign* does not contain the elements missing from *Osten*, as described above. *Pickreign* regards mapping a host computer address space into a network interface adaptor address space, and is not relevant to the elements of "requesting an InfiniBand connectivity configuration" and "receiving a response regarding whether the requested configuration can be provided". Thus, alone or together, Osten and Pickreign do not address the relevant elements of the claims.

While having other differences, claims 7 and 23 are allowable as being dependent on the allowable base claims.

CONCLUSION

Careful review of the Examiner's rejections shows that the Examiner has failed to provide any reference or combination of references that shows the claims. Therefore, Appellant respectfully submits that all appealed claims in this application are patentable and were improperly rejected by the Examiner during prosecution before the United States Patent and Trademark Office. Appellant respectfully requests that the Board of Patent Appeals and Interferences reverse the Examiner and direct allowance of the rejected claims.

Fees – This brief is submitted, along with a check for $500.00 to cover the appeal fee for one other than a small entity as specified in 37 C.F.R. §1.17(c). This brief is filed within one month of the date of mailing of the Notice of Panel Decision from Pre-Appeal Brief Review. Please charge any shortages and credit any overcharges to our Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: March 13, 2006

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(viii) CLAIMS APPENDIX

The claims on appeal read as follows:

1. A method comprising:

    requesting an InfiniBand connectivity configuration;

    receiving a response regarding whether the requested configuration can be

    provided; and

    attempting to establish the requested connectivity configuration if the response to

    the request is affirmative.

2. The method of claim 1, wherein the requested connectivity configuration is not

    contained in a specification established for the InfiniBand architecture.

3. The method of claim 1, wherein the requested connectivity configuration is

    comprised of a plurality of links.

4. The method of claim 1, wherein the requested connectivity configuration is

    provided using a standard InfiniBand backplane connector.

5. The method of claim 1, wherein said request for a connectivity configuration is

    made by an InfiniBand module to an InfiniBand chassis management entity.

6. The method of claim 1, wherein said request for a connectivity configuration is

    made through an InfiniBand management link.

7. The method of claim 6, wherein said request for a connectivity configuration is

    written to a first management link configuration register and said response to said

    request is written to a second management link configuration register.

8.   A method comprising:

receiving a connectivity configuration request associated with an InfiniBand

connector, the configuration request representing an expanded InfiniBand

connector configuration including information indicative of one or more

desired links to be established through the InfiniBand connector and

assigning one or more physical lanes of the InfiniBand connector to each

of the one or more desired links;

providing a response to the connectivity configuration request indicating whether

the requested expanded InfiniBand connector configuration can be

provided; and

configuring the InfiniBand connector in accordance with said connectivity

configuration request.

9.   The method of claim 8, wherein said connectivity configuration request is made

by an InfiniBand module and is received by an InfiniBand chassis management

entity.

10. The method of claim 8, wherein said expanded InfiniBand connector

configuration is not contained in [[the]] a specification established for the

InfiniBand architecture.

11. The method of claim 8, wherein said expanded InfiniBand connector

configuration is comprised of a plurality of links.

12. A method comprising:

an InfiniBand management link operating to enable the establishment of an

InfiniBand connectivity configuration, wherein said management link:

records a request for a connectivity configuration made by an InfiniBand module;

allows an InfiniBand chassis to obtain said request for a connectivity configuration;

records a response from said InfiniBand chassis to said request for a connectivity configuration; and

allows said InfiniBand module to obtain said response to said request for a connectivity configuration.

13. The method of claim 12, wherein said request for a connectivity configuration requests an expanded configuration that is not contained in [[the]] a specification established for the InfiniBand architecture.

14. The method of claim 12, wherein said request for a connectivity configuration is written to a first management link configuration register and said response is written to a second management link configuration register.

15. The method of claim 12, wherein the requested connectivity configuration is comprised of a plurality of links.

16. A network apparatus comprising:

an InfiniBand connector;

an InfiniBand module to make a request for an expanded connectivity configuration for the InfiniBand connector; and

a chassis management entity coupled to said InfiniBand module, the chassis management entity to receive the request for an expanded connectivity

configuration for the InfiniBand connector and to provide a response regarding whether the requested configuration can be provided.

17. The network apparatus of claim 16, wherein said requested connectivity configuration is not contained in a specification established for the InfiniBand architecture.

18. The network apparatus of claim 16, wherein the requested connectivity configuration is other than:

a single link comprised of a connection to the first pin of a plurality of pins on the InfiniBand connector;

a single link comprised of a connection to the first four pins of the plurality of pins on the InfiniBand connector; or

a single link comprised of a connection to the first twelve pins of the plurality of pins on the InfiniBand connector.

19. The network apparatus of claim 16, wherein said InfiniBand module is operable to establish the requested connectivity configuration if the response to said connectivity request is affirmative.

20. The network apparatus of claim 16, wherein said requested connectivity configuration is comprised of a plurality of links that are provided simultaneously through said InfiniBand connector.

21. The network apparatus of claim 16, wherein the InfiniBand connector is a standard InfiniBand backplane connector.

22. The network apparatus of claim 16, wherein the said request for a connectivity configuration is made through an InfiniBand management link.

23. The network apparatus of claim 21, wherein said request for a connectivity configuration is written to a first management link configuration register and said response to said request is written to a second management link configuration register.

24. A machine readable medium having stored thereon data representing sequences of instructions which, when executed by a processor, cause the processor to perform operations comprising:

requesting an expanded InfiniBand connectivity configuration;

receiving a response regarding whether the requested configuration can be

provided; and

establishing the requested configuration.

25. The medium of claim 24 wherein the requested connectivity configuration is not contained in a specification established for the InfiniBand architecture.

26. The medium of claim 24 wherein the requested connectivity configuration is comprised of a plurality of links.

(ix)   EVIDENCE APPENDIX

None.

(x)   RELATED PROCEEDINGS APPENDIX

None.

$A F \$$
$J \rho \omega$
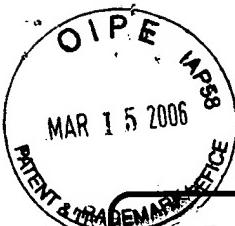
TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application No.	09/752,369
Filing Date	December 29, 2000
First Named Inventor	Patrick F. Doyle
Art Unit	2154
Examiner Name	Chankong, Dohm

Total Number of Pages in This Submission	21	Attorney Docket Number	42390P9017

ENCLOSURES   *(check all that apply)*

☒ Fee Transmittal Form

   ☒ Fee Attached

☐ Amendment / Response

   ☐ After Final
   ☐ Affidavits/declaration(s)

☐ Extension of Time Request

☐ Express Abandonment Request

☐ Information Disclosure Statement

   ☐ PTO/SB/08

☐ Certified Copy of Priority Document(s)

☐ Response to Missing Parts/ Incomplete Application

   ☐ Basic Filing Fee

   ☐ Declaration/POA

   ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53

☐ Drawing(s)

☐ Licensing-related Papers

☐ Petition

☐ Petition to Convert a Provisional Application

☐ Power of Attorney, Revocation Change of Correspondence Address

☐ Terminal Disclaimer

☐ Request for Refund

☐ CD, Number of CD(s)

   ☐ Landscape Table on CD

Remarks

☐ After Allowance Communication to TC

☐ Appeal Communication to Board of Appeals and Interferences

☒ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**

☐ Proprietary Information

☐ Status Letter

☒ Other Enclosure(s) *(please identify below):*

Return Postcard
Check for $500.00

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Mark C. Van Ness, Reg. No. 39,865 BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP
Signature	*[signature]*
Date	March 13, 2006

CERTIFICATE OF MAILING/TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop Appeal Brief-Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Typed or printed name	Gayle Bekish		
Signature	*[signature]*	Date	March 13, 2006

FEE TRANSMITTAL
for FY 2005
Patent fees are subject to annual revision.

Complete if Known	
Application Number	09/752,369
Filing Date	December 29, 2000
First Named Inventor	Patrick F. Doyle
Examiner Name	Chankong, Dohm
Art Unit	2154
Attorney Docket No.	42390P9017

☐ Applicant claims small entity status. See 37 CFR 1.27.

TOTAL AMOUNT OF PAYMENT	($)	500.00

METHOD OF PAYMENT *(check all that apply)*

☒ Check ☐ Credit card ☐ Money Order ☐ None ☐ Other (please identify): _____

☒ Deposit Account Deposit Account Number: 02-2666 Deposit Account Name: Blakely, Sokoloff, Taylor & Zafman LLP

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)
☐ Charge fee(s) indicated below   ☐ Charge fee(s) indicated below, except for the filing fee
☒ Charge any additional fee(s) or underpayment of fee(s)   ☒ Credit any overpayments
   under 37 CFR §§ 1.16, 1.17, 1.18 and 1.20.

FEE CALCULATION

Large Entity		Small Entity			
Fee Code	Fee ($)	Fee Code	Fee ($)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet.	
2053	130	2053	130	Non-English specification	
1251	120	2251	60	Extension for reply within first month	
1252	450	2252	225	Extension for reply within second month	
1253	1,020	2253	510	Extension for reply within third month	
1254	1,590	2254	795	Extension for reply within fourth month	
1255	2,160	2255	1,080	Extension for reply within fifth month	
1401	500	2401	250	Notice of Appeal	
1402	500	2402	250	Filing a brief in support of an appeal	500.00
1403	1,000	2403	500	Request for oral hearing	
1451	1,510	2451	1,510	Petition to institute a public use proceeding	
1460	130	2460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
1809	790	1809	395	Filing a submission after final rejection (37 CFR § 1.129(a))	
1810	790	2810	395	For each additional invention to be examined (37 CFR § 1.129(b))	

Other fee (specify) _____

	SUBTOTAL (2)	($)	500.00

SUBMITTED BY

			Complete (if applicable)			
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Signature				Date	03/13/06